

COLORADO RIVER, CAL. AND ARIZ.

LETTER

FROM

THE SECRETARY OF WAR,

TRANSMITTING,

WITH A LETTER FROM THE CHIEF OF ENGINEERS, REPORT ON
PRELIMINARY EXAMINATION OF COLORADO RIVER, CAL.
AND ARIZ.

AUGUST 7, 1914.—Referred to the Committee on Rivers and Harbors and ordered
to be printed, with illustration.

WAR DEPARTMENT,
Washington, August 6, 1914.

THE SPEAKER OF THE HOUSE OF REPRESENTATIVES.

SIR: I have the honor to transmit herewith a letter from the Chief of Engineers, United States Army, dated August 4, instant, together with copy of a report from Maj. R. R. Raymond, Corps of Engineers, dated May 21, 1914, with map, upon a preliminary examination of Colorado River, Cal. and Ariz., made by him in compliance with the provisions of the river and harbor act approved March 4, 1913.

Very respectfully,

LINDLEY M. GARRISON,
Secretary of War.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, August 4, 1914.

From: The Chief of Engineers, United States Army.

To: The Secretary of War.

Subject: Preliminary examination of Colorado River, Cal. and Ariz.

1. There is submitted herewith, for transmission to Congress, report dated May 21, 1914, with map, by Maj. R. R. Raymond,

Corps of Engineers, on preliminary examination of Colorado River, Cal. and Ariz., with a view of developing and improving navigation, called for by the river and harbor act approved March 4, 1913.

2. Sections of the Colorado River form the boundary lines between the States of California and Arizona, and between Nevada and Arizona. It empties into the Gulf of California in Mexico. Below Yuma the channel is unstable and can not be made permanent at reasonable cost. The Laguna Dam, 11 miles above Yuma, constitutes a barrier to navigation which could be overcome only by the construction of a lock. The waters of the stream are used for irrigation purposes, and such usage would conflict more or less with navigation. There is practically no river commerce at the present time, and the district officer is of opinion that the stream is not worthy of improvement by the United States. The division engineer concurs in this opinion.

3. This report has been referred, as required by law, to the Board of Engineers for Rivers and Harbors, and attention is invited to its report herewith, dated July 14, 1914, concurring with the view of the district officer and the division engineer.

4. After due consideration of the above-mentioned reports, I concur with the views of the district officer, the division engineer, and the Board of Engineers for Rivers and Harbors, and therefore report that the improvement by the United States of Colorado River, Cal. and Ariz., with a view of developing and improving navigation, is not deemed advisable at the present time.

DAN C. KINGMAN,
Chief of Engineers, United States Army.

REPORT OF THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS.

[Third indorsement.]

THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
July 14, 1914.

To the CHIEF OF ENGINEERS, UNITED STATES ARMY.

1. The following is submitted in review of the district officer's report on preliminary examination of Colorado River, Cal. and Ariz., with a view of developing and improving navigation, called for by the act of March 4, 1913.

2. The Laguna Dam, located 11 miles above Yuma, closes the river at present to possible navigation. To pass the dam would require the construction of a lock. Below Yuma the river flows through a delta country and the channel is unstable in position. The district officer states that it could not be fixed at reasonable cost. There is little water in the river below the Imperial Canal at low stages, and it seems probable that this condition will become more pronounced through the more extensive use of the waters of the river for irrigation purposes in the future. From the Laguna Dam to Eldorado Canyon the navigability of the river is dependent upon the stage. At certain points it is not navigable at low water.

3. There is no commerce on the river at present. The principal source of prospective commerce is the produce of the adjacent

country. The most important use of the water is for irrigation purposes, and to increase the tonnage of the country would lessen the amount of water available for navigation. The district officer is of opinion that improvement for navigation purposes is not justifiable, and in this view the division engineer concurs.

4. Interested parties were advised of the unfavorable tenor of the district officer's report and given an opportunity of submitting their views to the board, but no communications on the subject have been received.

5. It seems clear from a study of the physical conditions that any improvement for the purposes of navigation would be very costly. The use of the river for irrigation purposes conflicts more or less with its improvement for navigation. The outlet of the river is through a foreign country. It does not seem probable that even if the river were improved a large commerce would be developed.

6. In view of the facts outlined above, the board reports, in concurrence with the district officer and the division engineer, that in its opinion it is not advisable for the United States to undertake the improvement of the Colorado River, Cal. and Ariz., at this time.

7. In compliance with law, the board reports that there are no questions of terminal facilities, water power, or other related subjects having any material bearing upon the improvement of navigation at this locality.

For the board:

W. M. BLACK,
*Colonel, Corps of Engineers,
Senior Member of the Board.*

PRELIMINARY EXAMINATION OF COLORADO RIVER, CAL. AND ARIZ.

UNITED STATES ENGINEER OFFICE,
Los Angeles, Cal., May 21, 1914.

From: The District Engineer Officer.

To: The Chief of Engineers, United States Army
(Through Division Engineer).

Subject: Preliminary examination of Colorado River, Cal. and Ariz.

1. In compliance with department letter dated March 18, 1913, the following report is submitted of a preliminary examination of Colorado River, California and Arizona, with a view of developing and improving navigation, as provided for by the river and harbor act of March 4, 1913.

2. The Colorado River forms the boundary between California and Arizona. It has been the subject of preliminary examinations several times, as follows:

In 1857, by Lieut. Ives, Topographical Engineers.

In 1879, by Lieut. Col. Stewart, Corps of Engineers. See Annual Report, Chief of Engineers, 1879, page 1773.

In 1890, by Lieut. Col. Benyaurd, Corps of Engineers. See House Document No. 18, Fifty-first Congress, second session.

In 1895, by Lieut. Potter, Corps of Engineers. See House Document No. 101, Fifty-fourth Congress, first session.

In 1896, by Maj. Davis, Corps of Engineers. See House Document No. 118, Fifty-fourth Congress, second session.

In 1900, by Capt. Meyler, Corps of Engineers. See House Document No. 67, Fifty-sixth Congress, second session.

In 1903, by Capt. Jadwin, Corps of Engineers. See House Documents Nos. 204 and 237, Fifty-eighth Congress, second session.

3. With the data contained in these reports and other records available it was not necessary to make an extensive reconnoissance of the river. I visited it, however, at and near Yuma to learn by personal observation the general conditions and the uses made of the river waters.

4. Below Yuma the river flows through a delta country which is constantly being built up by the large quantity of silt carried by the river. The channel is unstable and can not be made stable at reasonable cost. At present the principal channel in Mexico passes through Volcano Lake. In addition to the fact that this part of the river lies in a foreign country, it should be noted that there is so little water available in the river below the heading of the Imperial Canal during low stages that navigation throughout the year is impracticable. The amount of water extracted from the river for irrigation will increase rather than decrease.

5. For these reasons navigation from Laguna Dam to the Gulf of California is not practicable to an extent that could be of interest to the United States at large.

6. The Leguna Dam, 11 miles above Yuma, is a positive obstruction to navigation. It would be necessary to construct a lock if navigation is to pass this dam, but to canalize a stream bearing as much silt as the Colorado River would probably lead to a heavy cost for maintenance.

7. From Laguna Dam to Eldorado Canyon the navigability of the river is dependent upon the stage. At low stages the river is not navigable at certain points.

8. Without an accurate survey it is impossible to form any idea of the work required to make the stream navigable or of the cost of the same, but it is certain that the cost would be large.

9. The only commerce possible would be the transportation of commodities from the railroad crossings at Yuma, Parker, and Needles to the country along the river and of produce of the country to the railroads. The growth of such commerce must increase the drain upon the river for water for irrigation purposes. The margin of supply over demand is none too large at present, and to limit the use of the water for irrigation would be to restrain the growth of the very commerce which alone can justify the improvement of the river for navigation.

10. For these reasons the improvement of the river for navigation would defeat its own ends and would be a detriment to the adjacent country, except, possibly, that flood control would be beneficial. Whether this view is entirely correct or not, there appears to be no such certainty of benefit to the Nation at large to be expected from improvement as will justify a national appropriation.

11. I am therefore of the opinion that the Colorado River in California and Arizona is not worthy of improvement by the United States. I do not recommend a survey of the same.

12. Attention is invited to the conclusions reached by officers who have examined this river heretofore, which agree with my own. The development of the country by irrigation in recent years makes the improvement even less desirable to-day than it was formerly.

13. There being practically no river-borne commerce, no terminals exist. No water-power developments are known to be practicable which might be combined with an improvement for navigation.

R. R. RAYMOND,
Major, Corps of Engineers.

[First indorsement.]

OFFICE OF DIVISION ENGINEER, PACIFIC DIVISION,
San Francisco, Cal., May 25, 1914.

To the CHIEF OF ENGINEERS:

Concurring in the views expressed by the district engineer officer.

THOS. H. REES,
Lieutenant Colonel, Corps of Engineers.

[For report of Board of Engineers for Rivers and Harbors see page 2.]







